

common base number in the subfamily is  $x=7$  (e.g., Raven, *Annals of the Missouri Botanical Garden* 62:724–764, 1975). A base of  $x=9$  does, however, characterize at least the tribes Dryadeae as well as Kerriae of the subfamily, as well as the entire subfamily Spiraeoideae (Raven, *Annals of the Missouri Botanical Garden* 62:724–764, 1975; Goldblatt, 63:200–206, 1976). Although the chromosome number in *Neviusia* thus at first seems discordant in Rosoideae, it is not for Kerriae. There seems no reason to dispute the subfamilial position of Kerriae but it seems worth pointing out that although the traditional view is that  $x=7$  is basic for Rosoideae, this number is merely the most common chromosomal base in the subfamily. Most likely the ancestral base number for Rosoideae is  $x=9$ . Dysploid reduction of the chromosome number to  $x=8$  and then to 7 most likely occurred early in the differentiation and radiation of the subfamily.

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## NOTEWORTHY COLLECTIONS

### CALIFORNIA

*BRASSICA FRUTICULOSA* Cyrillo (BRASSICACEAE).—Los Angeles Co., southern base of the San Gabriel Mtns. in Evey Canyon, just north of San Antonio Dam and Potato Mtn., alt. 700 m, 11 Jun 1993, *Steve Boyd et al.* 8190 (RSA); Riverside Co., Box Springs Mountains, E edge of Riverside, Two Trees Canyon, ca. 20 individuals in a large stand of wildflowers on a one year old burn, 5 Apr 1989, A. C. Sanders & O. F. Clarke 9035 (UCR); San Bernardino Co., Ontario, N side of Holt Blvd. just NE of the Ontario Airport, sandy soil in a waste area, 26 Jan 1992, A. C. Sanders 12017 (RSA, UCR); Redlands, Santa Ana River Wash, between Orange St. and Church St., 34°06'N, 117°11'W, T1S, R3W, S15, alt. 1200 ft., 18 Jun 1993, *Scott White* 1565D (UCR); San Gabriel Mountains, Cucamonga Creek, T1N R7W S20, alt. 2140 ft., 26 Jan 1994, *Dick Swinney* 2705 (RSA, UCR); San Gabriel Mountains, N of 19th St. in Rancho Cucamonga, ca. ½ mi W of Sapphire St., alt. 1624 ft., 26 Jan 1994, *Dick Swinney* 2713 (RSA, UCR); Muscoy, Hwy 30 (Highland Ave.) at Cajon Wash, 34°10'N, 117°20'W, alt. 365 m, 2 Dec 1994, A. C. Sanders 15893 (UCR & to be distributed)

*Previous knowledge.* Native to Europe, previously introduced into Australia.

*Significance.* First records for California. Not reported anywhere in North America by R. C. Rollins (*The Cruciferae of Continental North America*, 1993).

This species will key to *Brassica juncea* (L.) Czernov in the *Brassica* treatment in *The Jepson Manual* (R. C. Rollins, in, J. C. Hickman, ed., 1993). It differs from *B. juncea* in that the leaves, especially the upper, are more deeply and consistently lobed; the beak of the fruit is shorter (3–4 mm versus 6–7 mm); the fruits have a strongly “beaded” appearance caused by bulges created by the seeds; and the flowers are smaller (sepals only 3–4 mm versus 5–6 mm). It is also similar to *B. elongata* Ehrh., which has been introduced into Nevada, but differs in that the fruit is not stipitate and the inflorescence is much less highly branched. *B. elongata* looks like a tumbleweed, such as *Sisymbrium altissimum*, whereas *B. fruticulosa* has longer, little-branched, racemose, inflorescence branches.

*Brassica fruticulosa* is apparently well established along the south foot of the San Gabriel and San Bernardino Mountains and in adjacent interior valleys to the south.

It was first collected in 1989, but was soon thereafter found at scattered localities by several collectors. It appears to have spread rapidly beginning in the late 1980's. The species may also be present, but overlooked, elsewhere in southern California.

—ANDREW C. SANDERS, Herbarium, Dept. of Botany and Plant Sciences, University of California, Riverside, CA 92521; STEVE BOYD, Herbarium, Rancho Santa Ana Botanic Garden, 1500 N. College Ave., Claremont, CA 91711.

*ACHRACHNE RACEMOSA* (Roem. & Schult.) Ohwi (Poaceae).—Riverside Co., Palm Springs, Tahquitz debris basin at base of Tahquitz Canyon, off Sunny Dunes Rd., 9 Sep 1991, L. LaPré & M. Phillips 91-18 (UCR). (Determined by J. R. & C. G. Reeder.)

*Previous knowledge.* Native to the Old World tropics from Africa to Australia, previously introduced to the West Indies (S. Phillips 1974; pg. 258–260, in R. M. Polhill, ed., *Flora of Tropical East Africa.*, illustrated).

*Significance.* First record for California and the U.S. of this monotypic genus. This annual grass, up to 75 cm tall and resembling *Eleusine* or *Chloris*, should be watched for in moist areas in the Coachella and Imperial Valleys and along the Colorado River.

*AEGILOPS CYLINDRICA* Host. (Poaceae).—San Bernardino Co., San Bernardino Mtns., Waters Rd. just W of Fernwood Dr., Cedarpines Park, 117°17'W, 34°15'N, T2N R4W S20, alt. 1325 m, locally abundant on roadside in yellow pine forest, 26 Jun 1994, A. C. Sanders 14933 (UCR, & to be distributed).

*Previous knowledge.* Native to the Middle East, but previously recorded in northern California, on Santa Cruz Island, and at Santa Barbara (G. D. Barbe, *Noxious Weeds of California, Distribution Maps*, CA Dept. of Food and Ag., 1990).

*Significance.* First record for San Bernardino Co., second for mainland southern California, and a 250 km E range extension.

*ATRIplex MUELLERI* Benth. (Chenopodiaceae).—Riverside Co., solitary plant on roadside 20 miles west of Blythe, 17 Oct 1965, J. C. Roos s.n. (CAS, COLO, RSA, UCR). (Determined by W. A. Weber.)

*Previous knowledge.* Native to Australia.

*Significance.* First record for California; apparently reported from the U.S. only by Kartesz (*A Synonymized Flora of the United States, Canada and Greenland*, Timber Press, 1994), but on what basis and from where is unknown. Recent searching of the collection area has not revealed the species.

*BAILEYA MULTIRADIATA* Harv. & Gray (Asteraceae).—Riverside Co., Coachella Valley, Indio, remnant dune patch at the edge of the lawn of a commercial strip mall, just SW of the Whitewater River channel at Auto Center Dr., 33°43.3'N, 116°12.3'W, T5S R7E S24, alt. 7 m, almost certainly introduced at this site, probably came with turf grown in Arizona, 12 Mar 1995, A. C. Sanders et al. 16019 (UCR); San Bernardino Co., NE foot of the San Bernardino Mtns., below Terrace Spring, locally common in an open disturbed area near the road, fairly common on an adjacent undisturbed slope, T3N R2E S16, alt. 1375 m, 7 May 1995, A. C. Sanders et al. 16943 (UCR); San Diego Co., Borrego Valley, Hwy S-3, opposite entrance to Ram's Hill Country Club, alt. 230 m, irrigated area, [weed] growing among landscape plants, 3 Apr 1991, R. D. Goeden & J. Teerink s.n. (UCR).

*Previous knowledge.* Eastern Mojave Desert of San Bernardino Co., W to near Kelso, and to UT, TX and northern Mexico.

*Significance.* First records for Riverside and San Diego Counties and a range extension within San Bernardino Co. of 130 km SW from Kelso. The Riverside and San Diego Co. populations are associated with landscaped areas and are certainly introduced, but the Terrace Spring population appears native; there is no landscaping or irrigation in the area.

*BROMUS SECALINUS* L. (Poaceae).—San Bernardino Co., San Bernardino Mtns., Waters Rd. just W of Fernwood Dr., Cedarpines Park, 117°17'W, 34°15'N, T2N R4W S20, alt. 1325 m, yellow pine forest, fairly common along old roads in partial to full sun, 26 Jun 1994, A. C. Sanders 14922 (ARIZ, UCR, & to be distributed); Lake Silverwood, Cleghorn Day Use Area, south side of the lake near mouth of Sawpit Canyon, T2N R4W S6, alt. 1100 m, 12 Jun 1994, A. C. Sanders & P. MacKay 14774 (ARIZ, UCR, & to be distributed). (Det. confirmed by J. R. Reeder.)

*Previous knowledge.* Native to Europe but introduced widely in N America, previously reported from the central Sierra Nevada and northern California.

*Significance.* First records for San Bernardino Co. and southern California, and a range extension of about 400 km.

*CENCHRUS CILIARIS* L. (Poaceae).—Orange Co., along the Newport Freeway (55) at its intersection with Chapman Ave., City of Orange, locally common and vigorous, scattered at least as far south as the Garden Grove Freeway (22), 8 Oct 1983, J. West *s.n.* (RSA, UCR); Riverside Co., roadside 20 miles west of Blythe, 17 Oct 1965, J. C. Roos *s.n.* (RSA, UCR).

*Previous knowledge.* First reported in California by Webster (in J. C. Hickman, ed., *The Jepson Manual*, 1993), but only from Los Angeles Co. Native to Africa, but widely planted as a pasture grass in Mexico and Texas. Fairly common on roadsides in Arizona, including sites along I-10 less than 10 miles E of Blythe.

*Significance.* First records for Orange and Riverside Counties. This species is well established, though quite uncommon, in southern California. It seems to require summer moisture and so may never become widespread, except in irrigated areas. It is common at the West collection site, but I have been unable to relocate it at the Roos site. In addition to the above specimens, I have seen fragmentary material (not preserved) collected near Indio, Riverside Co. Oddly, both the West and Roos specimens at RSA were annotated by Webster in 1991, but Orange and Riverside were not counties he reported. I don't know the basis for the report from Los Angeles Co. and wonder if it might be an error.

*CENTAUREA DIFFUSA* Lam. (Asteraceae).—San Bernardino Co., San Bernardino Mtns., Arrowbear Lake, 34°12.69'N, 117°04.61'W, T2N R2W S34., alt. 1890 m, locally common on disturbed slope between lake and parking lot, 21 Aug 1994, A. C. Sanders *et al.* 15356 (UCR, & to be distributed).

*Previous knowledge.* A noxious weed introduced from Europe, known from scattered locations in northern California, mostly north of San Francisco, but with one site in Monterey Co. (Barbe 1990).

*Significance.* First record for San Bernardino Co. and southern California; a range extension of ca. 450 km.

*CENTAUREA MACULOSA* Lam. (Asteraceae).—San Bernardino Co., San Bernardino Mtns., Hwy 18, turnout ¼ mi. W of Big Bear Lake dam, T2N R1W SE ¼ S21, roadside in mixed yellow pine and canyon live oak forest, alt. 2065 m, 14 Aug 1994, A. C. Sanders *et al.* 15283 (UCR, & to be distributed).

*Previous knowledge.* A noxious weed from Europe, known from scattered locations

in California, primarily in northern third of the state; the only known southern population in Julian, San Diego Co. (Barbe 1990).

*Significance.* First record for San Bernardino Co.

*CERATONIA SILIQUA* L. (Fabaceae).—Los Angeles Co., Ballona wetlands, adventive in area 1, also seen in area 3, 16 Sep 1980, *R. Gustafson 1927* (RSA); San Jose Hills west of California State Polytechnic University, Pomona, 34°03'32"N, 117°49'53"W, adventive on slopes with *Quercus agrifolia*, *Juglans californica*, *Eriogonum fasciculatum*, *Opuntia littoralis*, *Salvia apiana*, etc., alt. ca. 300 m, 3 Jun 1991, *T. S. Ross & A. H. Ross 5553* (RSA); Riverside Co., Riverside, UCR Botanic Garden, fairly common weed in the Australian section, most plants cut to the ground and resprouting, not allowed to mature sufficiently to flower, T2S R4W SE/4 S29, alt. 400 m, 19 Dec 1995, *A. C. Sanders 17937* (UCR); San Bernardino Co., Santa Ana River wash between Orange St. and Church St., Redlands, 34°06'N, 117°11'W, T1S R3W S15, associated with *Lepidospartum squamatum*, *Eriogonum fasciculatum*, *Sambucus mexicana*, *Brickellia californica*, etc., alt. 365 m, 18 Jun 1993, *Scott White 1565E* (UCR).

*Previous knowledge.* Native to the Mediterranean and Middle East, commonly cultivated in California.

*Significance.* First report of naturalized plants in California. Apparently reported from the U. S. only by Kartesz (1994), but from where and on what basis is unknown. This species is commonly spontaneous in urban areas in southern California and is now, for example, one of the worst woody weeds in the UCR and RSA Botanic Gardens. It only rarely escapes into undisturbed habitats, but should be watched for along washes and in other moist places. Also observed naturalized by T. S. Ross (personal communication) on a relatively steep easterly slope in Loop Cyn., W end San Gabriel Mtns., Angeles Nat. Forest (Los Angeles Co.), T3N R15W SE 1/4 S14, alt. 610 m, May 1993.

The fruits are commonly eaten by coyotes which disperse the seeds. In urban areas it germinates in great numbers following application of mulch made from street trees. Spread into natural habitats may be retarded by jackrabbits which eat the foliage and can create a "browse-line" on unprotected trees (O. F. Clarke personal communication), though this effect is not noticable with cottontail rabbits at the UCR Botanic Garden.

*CHLORIS TRUNCATA* R. Br. (Poaceae).—Riverside Co., Temecula, Drake Enterprises vinyard at Buck Rd. and Berenda Rd., common around the emitters for the drip irrigation system, also present in the adjacent Calaway vinyard, 6 Nov 1995, *V. McAfee-Jacobs & B. R. Drake 1* (RSA, UCR, & to be distributed). (Determined by Travis Columbus.)

*Previous knowledge.* Native to Australia. Previously reported from Hawaii, but apparently rare there (W. L. Wagner et al., *Manual of the Flowering Plants of Hawai'i*, 1990).

*Significance.* First record for California and North America. This appears to be an established member of California's growing weed flora; has been present at this location for 7–8 years and becoming common.

*CYNANCHUM LOUISEAE* Kartesz & Gandhi (Asclepiadaceae).—Riverside Co., Riverside, weed of unknown origin in the UCR Botanic Garden, 5 Sep 1985, *A. C. Sanders 5951* (RSA, UCR).

*Previous knowledge.* Native of Europe; common as a weed in the eastern U. S.

*Significance.* First record for California, but has been in Riverside for ca. 20 years. Known as *C. nigrum* (L.) Pers., but see Kartesz & Gandhi (*Phytologia* 71:270, 1991).

*EPHEDRA FUNEREA* Cov. & Mort. (Ephedraceae).—San Bernardino Co., Hesperia, alt. 915 m, 12 Apr 1919, *P. A. Munz 2517* (POM); ca. 19 miles ESE of Barstow in Newberry Mts., up canyon just W of Newberry, frequent in red rhyolite, alt. 600–900 m, 6 May 1978, *James Henrickson 16805* (RSA); lower slopes of Newberry Mt., just S. of town of Newberry, off Interstate Highway 40, 31 Jul 1984, *Sherwin Carlquist 15821* (RSA); Twentynine Palms Marine Corps Air-Ground Combat Center, NW end of the Lava Bed Mountains, UTM: 11S, NJ-5036, alt. 1000 m, fairly common (1.75% cover) on rocky slopes, 24 Apr 1989, A. C. *Sanders & J. Lyman 9049* (RSA, UCR); Twentynine Palms MCACC, W side of Hidalgo Mountain, 34°26.2'N, 116°19.2'W, alt. 915 m, 19 May 1991, *B. Pitzer 1572* (UCR).

*Previous knowledge.* Death Valley region of California and Nevada and the eastern Mojave Desert of California (H. Cutler, *Ann. Mo. Bot. Gard.* 26:373–428, 1939; P. Munz, *A Flora of Southern California*, 1974). Griffin (in Hickman 1993) reports this from “DMoj” without specific detail, but given the vague range descriptions in the Jepson Manual that is not evidence of records away from the N and E Mojave; it is not known from the W Mojave Desert.

*Significance.* Range extensions of 100–165 km S and SW from the Avawatz Mtns. in the N Mojave Desert and first reports for the central and southern Mojave Desert. *Munz 2517* was annotated “*Ephedra funerea* Cov. & Mort.?” by Cutler in 1939, but was not cited in his monograph, and it did not influence Munz in range description in his floras (*A California Flora*, 1959; 1974). It was collected so far from the species' known range that it may not have been trusted; additional collections reported here solidify the record.

*ERAGROSTIS CURVULA* (Schrad.) Nees var. *CONFERTA* Nees (Poaceae).—Riverside Co., Riverside, weed in the UCR Botanic Garden, 27 Jul 1992, *S. Morgan 92-7* (ARIZ, UCR); Riverside, Santa Ana River between the Hwy 60 bridge and Mission Blvd. bridge, 117°23'W, 33°59'N, scarce in sand among rocks in rip-rap, alt. 243 m, 28 Jul 1994, A. C. *Sanders & S. Ogg 15183* (ARIZ, RSA, UCR). (Determined by J. R. Reeder).

*Previous knowledge.* Native to Africa.

*Significance.* First records in California of this distinctive variety; plantlets in leaf axils make recognition easy.

*FATOUA VILLOSA* (Thunb.) Nakai (Moraceae).—Riverside Co., Riverside, UCR Botanic Garden, weed in potted plants in the lath house, 7 Oct 1994, A. C. *Sanders & S. Morgan 15832* (F, UCR, & to be distributed); same location, scattered and uncommon in potted plants, common until the last few weeks when most were pulled, 30 Nov 1995, A. C. *Sanders & S. Morgan 17926* (UCR, & to be distributed); same location, abundant in greenhouse on mist bench, though mostly small seedlings because of weeding of larger plants, A. C. *Sanders & S. Morgan 17927* (RSA, UCR).

*Previous knowledge.* Native to China, Japan and the Ryukyu Islands (J. Liao, *Moraceae*, in *Flora of Taiwan*, 1976). Previously reported from N America as a greenhouse and garden weed in Louisiana (J. Thieret, *Sida*: (4):248, 1964).

*Significance.* First record for California. Though the specimens were from a lath house and a greenhouse, the plant will doubtless be found outside, probably in irrigated gardens. First noticed in the greenhouse about 1992 (W. Gary personal communication). It has increased considerably despite attempts to eliminate it by hand weeding and is particularly aggressive and fast growing in the greenhouse.

*Fatoua* resembles some non-stinging *Urticaceae*, but is placed in *Moraceae* primarily because of a vestigial second style (A. Cronquist, *An Integrated System of Classification of Flowering Plants*, 1981), but it lacks laticifers. The seeds are shot from the fruits in a manner similar to *Dorstenia* (I've not seen this noted in the literature); this fact might suggest affinities to that herbaceous member of *Moraceae*, and will certainly be of assistance in identification when live material is available.

*LINANTHUS ORCUTTHI* (Perry & Gray) Jeps. (Polemoniaceae).—San Bernardino Co. [all eastern San Bernardino Mtns.], Burns Reserve in piñon woodland on rocky, desert, hills, alt. ca. 1225 m, 22 Apr 1973, *O. F. Clarke s.n.* (UCR); Broom Flats, T2N R2E S25, alt. 2140 m, in open pinyon woodland on hills surrounding meadow, 20 May 1980, *T. Krantz s.n.* (UCR); Pioneertown Rd., 1.9 mi. N of Yucca Valley, 2.1 mi. S of Pioneertown, 34°08'N, 116°28'W, T1N R5E S ½ S29 & N ½ S33, alt. 1125 m, sandy wash, 30 Apr 1995, *A. C. Sanders, G. & L. Helmkamp 16843* (UCR). (Clarke and Krantz collections determined by R. W. Patterson and T. P. Krantz).

*Previous knowledge.* San Diego Co. and northern Baja California, and perhaps just entering Riverside Co. near Mt. Palomar.

*Significance.* First records for San Bernardino Co. and a range extension of 100 km NNE from Mt. Palomar. These records also extend the elevation limits given by Patterson (in Hickman 1993) by 320 m; from 1300–2000 to 1125–2145 m. This plant, listed as rare and endangered by CNPS (*Inventory of Rare and Endangered Vascular Plants of California*, Skinner & Pavlik, 1994), should be sought in the San Jacinto Mtns., Riverside Co.

*MATRICARIA GLOBIFERA* (Thunb.) Fenzl in Harv. & Sond. (Asteraceae).—Riverside Co., Lake Perris State Recreation Area, Moreno Beach Rd., 1.75 mi. from northern entrance gate, alt. 490 m, coastal sage scrub, 19 May 1981, *P. Schiffman 2* (UCR); same area, south side of lake, opposite Allesandro Island, 490 m, 9 May 1989, *D. Concannon s.n.* (UCR); Box Springs Mountains, alt. 735 m, coastal sage scrub, 19 May 1981, *K. M. Kummer s.n.* (UC, UCR); San Jacinto Wildlife Area, ca. 1 km northwest of Lakeview [E of Lake Perris], T4S R2W SE ¼ S6, alkali playa community, alt. 433 m, 6 May 1992, *D. Branlet 2265* (UCR); San Jacinto Wildlife Area, ca. 2 km northeast of Lakeview, T4S R2W NW ¼ S5, alt. 433 m, 8 Jun 1995, *D. Branlet 2434* (RSA, UCR). (Kummer collection determined by John Strother.)

*Previous knowledge.* Native to southern Africa.

*Significance.* First records for California and N America. Well established and common at Lake Perris, especially in campgrounds and on roadsides. Given high visitor use of this area, it appears probable that this plant will be dispersed widely in southern California. I believe the Kummer collection to be mislabeled; it almost certainly came from Lake Perris and may be part of the Schiffman collection (same date). I've not found this plant in the Box Springs Mtns. despite years of collecting.

*MELICA CALIFORNICA* Scribn. (Poaceae).—San Bernardino Co., San Bernardino Mtns., Pisgah Peak Rd., ca. 1.5 km above Oak Glen Rd., NW foot of Pisgah Peak, T1S R1W SW ¼ S33, alt. 1100 m, edge of chaparral, 14 May 1993, *A. C. Sanders & E. J. Lott 14041* (UCR).

*Previous knowledge.* Northern California, south to the mountains of Kern Co. and the Sespe Creek area of Ventura and Santa Barbara Counties (C. F. Smith, *A Flora of the Santa Barbara Region, California*, 1976).

*Significance.* First record for San Bernardino Co. and a range extension 250 km SE from the Tehachapi Mtns. and 300 km ESE from the Sespe Cr. area. The plants found fit var. *nevadensis* Boyle as described by Munz (1959) and Barkworth (in Hickman 1993).

*MELISSA OFFICINALIS* L. (Lamiaceae).—San Bernardino Co., San Bernardino Mtns., Miller Cyn. (Mojave River) below Pilot Rock Camp, T2N R4W S10, alt. 1200 m, fairly commonly naturalized on banks of the stream, 19 Jun 1994, *A. C. Sanders 14814* (UCR).

*Previous knowledge.* Native to Europe. Cultivated garden herb in California. Reported naturalized only in N California by Wilken (in Hickman 1993) and by Munz

(1959; 1974), but recently reported from the Santa Ana Mtns. (Boyd et al., *Aliso*, 14: 105-108, 1995).

*Significance.* First record for San Bernardino Co. and second locality for southern California. Also reproduces spontaneously in gardens, as in Riverside.

*PANICUM ANTIDOTALE* Retz. (Poaceae).—Inyo Co., China Ranch along the Amargosa River near the San Bernardino Co. line, alt. 460 m, 16 Oct 1973, *G. Helmkamp, O. F. Clarke, & J. Derby s.n.* (UCR). (Determined by J. R. Reeder.)

*Previous knowledge.* A noxious weed, introduced from India. Naturalized in TX, AZ, and at three scattered localities in irrigated areas in the deserts of southern California, one each in Imperial, Riverside and San Bernardino Counties (Barbe 1990).

*Significance.* First Inyo County locality and a 150 km range extension NE from the vicinity of Barstow. This locality is very close to the county line, the label actually reads "San Bernardino Co." but the China Ranch buildings are in Inyo County, and George Helmkamp's recollection is that none of the collections were made south of the ranch buildings. Helmkamp is doubtless correct and an error was evidently made when the label was prepared. Other collections at UCR, from the same trip, have labels reading "China Ranch, San Bernardino-Inyo Co. line", or some variant of that. Labels were typed at different times by different typists; formats vary.

*PANICUM MAXIMUM* Jacq. (Poaceae).—Riverside Co., Riverside, UCR Botanic Garden, alt. 500 m, locally common perennial weed, 3 Sep 1991, *A. C. Sanders & O. F. Clarke 11159* (ARIZ, RSA, UCR). (Determined by John R. Reeder.)

*Previous knowledge.* Presumed native to Africa, but widely cultivated in the tropics, notably Mexico, as a pasture grass.

*Significance.* First record for California. Well established at this location, had been present for several years at the time of collection, and still present and common in 1996.

*PISTACIA ATLANTICA* Desf. (Anacardiaceae).—Riverside Co., Riverside, scattered on NE facing granitic slopes of Mt. Rubidoux, 33°59'N, 117°23'W, alt. 400 m, coastal sage scrub, 15 May 1994, *A. C. Sanders 14480* (UCR, & to be distributed); Cherry Valley, naturalized in landscaping at Edward-Dean Museum on Oak Glen Rd., 1 mi. N of Orchard St., 33°59'N, 116°58'W, alt. 1000 m, no cultivated individuals in the immediate area, dispersed from elsewhere, 11 Jul 1994, *A. C. Sanders 15060* (UCR); San Bernardino Co., Oak Glen Creek wash, ca. 0.5 mi S of Oak Glen Rd. and 1.4 mi E of Bryant St., 34°02'N, 117°01'W, alt. 915 m, coastal sage scrub, 25 Apr 1987, *B. Pitzer 502* (UCR).

*Previous knowledge.* Native from N Africa to the eastern Mediterranean and Pakistan. Fairly commonly cultivated in California as an ornamental and as a rootstock for *Pistacia vera* L. Reported naturalized in northern California ("ScV") by Wilken (in Hickman 1993). Not reported for N America by Kartesz (1994).

*Significance.* First records of naturalized plants in Riverside and San Bernardino Counties, and in southern California. Becoming naturalized on dry slopes in interior southern California. Also common at the margins of cultivated areas and is one of the worst woody weeds in the UCR Botanic Garden. Reproduces readily from seed and is apparently dispersed by birds. Most plants are relatively young, vigorous, and reproducing freely. They appear to represent the incipient stages of a biological invasion that may well have an influence on the structure of the vegetation on the coastal slope of southern California. This species occurs at much higher elevations, 400–1000 m, in southern California than reported by Wilken (in Hickman 1993) for northern California (<100 m).

*SCHINUS POLYGAMUS* (Cav.) Cabr. (Anacardiaceae).—Los Angeles Co., Claremont, Rancho Santa Ana Botanic Garden, spontaneous on east edge of Indian Hill Mesa, alt. 410 m, 24 Nov 1991, *T. Ross & S. Boyd s.n.* (RSA); same area, T1S R8W SW 1/4 S3, alt. 415 m, weedy shrub occurring sporadically around the grounds, 15 Nov 1991, *T. Ross s.n.* (RSA); Riverside Co., Riverside, UCR campus, common weedy shrub in hedges and on brushy slopes at the margins of cultivated areas, 33°58'N, 117°19'W, T2S R4W S29, alt. 335 m, 5 Dec 1995, *A. C. Sanders & G. Helmkamp 17929* (UCR, & to be distributed); Riverside, common in an abandoned orange orchard on Spruce St. just E of Rustin Av., 33°59'N, 117°20'W, T2S R4W S18, alt. 300 m, 5 Dec 1995, *A. C. Sanders & G. Helmkamp 17930* (UCR, & to be distributed); Riverside, 4081 Glenwood, shrubby small tree, "perhaps spontaneous", Oct 1985, *Alden Kelly s.n.* (RSA, UCR); San Bernardino Co., Chino Hills, naturalized on roadside of Hwy 142 (Carbon Canyon Rd.), 33°56'N, 117°45'W, alt. ca. 300 m, Apr 1992, *K. Kirtland s.n.* (UCR); Ontario, volunteer in yard, alt. 320 m, 24 Nov 1991, *T. S. Ross 6028* (RSA).

*Previous knowledge.* Native to Chile and Argentina. Cultivated as an ornamental in California.

*Significance.* First records of naturalized plants in California, but widely established in urban areas in inland southern California. This species is probably more common as an escapee than it is as an ornamental; not commonly grown because it is somewhat spiny but otherwise nondescript. Tends to occur in slightly moist sites and is frequently found in abandoned groves and at untended margins of disturbed or cultivated areas receiving irrigation runoff. This is among the worst woody weeds in the UCR Botanic Garden. It may become a problem in natural communities in the moister areas toward the coast and in the northern parts of the state, but it has so far shown little tendency to invade the drier hillsides around Riverside. It appears less well adapted to aridity than *S. molle* L., which is fairly common. Conversely, it naturalizes in the Riverside area much more commonly than *S. terebinthifolia*. Raddi., which is infrequent as an escapee, but common as an ornamental. Apparently reported in the U. S., only in the checklist of Kartesz (1994).

*SCHOENUS NIGRICANS* L. (Cyperaceae).—San Bernardino Co., Avawatz Mtns., abundant at a spring 3 miles SE of peak 1876, 30 Sep 1994, *G. F. Pratt & C. Pratt s.n.* (UCR, & to be distributed); Arrowhead Hot Springs, 34°11.5'N, 117°16'W, T1N R4W S11, alt. 600 m, 27 Apr 1993, *A. C. Sanders et al. 13832* (UCR).

*Previous knowledge.* Widespread in the northern hemisphere, but rare and spotty in N America, and especially so in California. In California known only from scattered springs in the Death Valley region of Inyo Co., from Arrowhead Hot Springs, San Bernardino Mtns., and from a single marshy spring in Lone Pine Cyn., San Gabriel Mtns. The latter two locations are in SW San Bernardino Co. on the coastal slope of southern California. Reported by Dedecker (*Flora of the Northern Mojave Desert, California*, 1984) from the Grapevine, Black and Inyo Mtns., and has also been collected in the Funeral Mtns.

*Significance.* First report for Mojave Desert south of Inyo Co., range extension of ca. 80 km SSE from the Black Mtns.; first collection since 1924 at Arrowhead Hot Springs, a location where most local botanists thought it extirpated. This species is not listed in the CNPS Inventory (Skinner and Pavlik 1994) but should probably be included in list 2 (rare and endangered in California, more common elsewhere).

*SCRIBNERIA BOLANDERI* (Thurb.) Hack. (Poaceae).—San Bernardino Co., San Bernardino Mtns., Summit Valley on Hwy 173, 1 mi. S of the Grass Valley Cr. crossing, 117°16'W, 34°19'N, T3N R4W SW/4 S26, alt. 1000 m, moist gully in an opening in chaparral, 24 Apr 1993, *A. C. Sanders & H. Spilman 13775* (MO, RSA, SBBG, SD, UC, UCR); same location, dried seep on roadside bank, 23 Apr 1993, *A. C. Sanders et al. 13767* (ARIZ, CAS, RSA, SBBG, SD, UCR, US).



*Previous knowledge.* Washington to northern California, south to Santa Barbara Co., also reported from San Diego Co. (Zedler et al., *Madroño* 34(4):381, 1987), very recently from the Santa Ana Mtns (Boyd et al. 1995), and from one locality in Baja California (Zedler et al. 1987).

*Significance.* First records for San Bernardino Co. and a range extension of 220 km E from the Santa Ynez Mountains near Santa Barbara and 90 km NNE of the recently reported Santa Ana Mtns. locality. Worley (in Hickman 1993) says this is a species of "dry, disturbed areas," but based on its habitat in San Bernardino Co., and on the available label data at RSA and UCR, it appears instead to favor vernal moist seeps and ephemeral streams. Zedler et al. (1987) report it from the margins of vernal pools. Many specimens from northern California (e.g., *L. C. Wheeler 3500*, Siskiyou Mts, Siskiyou Co.—"low sunny site wet in spring, soil heavy") were taken in habitats very similar to those occupied in southern California. Local floras, if they give ecological notes on this species, make similar observations (e.g., R. F. Hoover, *The Vascular Plants of San Luis Obispo County, California*, 1970; J. T. Howell, *Marin Flora*, 1970; Smith 1976).

*SENNA OBTUSIFOLIA* (L.) Irwin & Barneby. (Fabaceae).—Riverside Co., south of Blythe in Paloverde Valley, 1 mi. N of the Imperial Co. line, 2 sterile plants in a 40 acre cotton field, 25 Jul 1989, *Les Ede s.n.* (RSA, UCR); same area, scarce weed in cotton fields, 19 Aug 1989, *Les Ede s.n.* (MO, NY, RSA, SD, UCR). (Determined by R. Barneby.)

*Previous knowledge.* A widespread weed of the neotropics, common in tropical and subtropical Mexico, occurring as far north as Baja California and Sonora. Occurs in Hawaii and the central and eastern U.S.

*Significance.* First records for California. Plants, while few in number, were vigorous and obviously doing well under the environmental conditions of the Colorado River Valley. The collector noted that they were up to 2 m tall and had a habit similar to *Sesbania*. The sterile plants found in July were destroyed at the time of collection and pieces sent to UCR. Better material was requested and a few more plants, with flowers and fruits, were found a month later. Agricultural areas along the Colorado River receive very little attention from collectors and doubtless support undetected populations of this and other tropical weeds.

*SOLANUM MAURITIANUM* Scop. (Solanaceae).—Riverside Co., Riverside, edge of an orange orchard and a light industrial area on Rustin Av., T2S R4W SE  $\frac{1}{4}$  S18, alt. 300 m, 30 Nov 1995, *A. C. Sanders 17928* (UCR, & to be distributed); San Bernardino Co., Redlands, abandoned orange orchard on the NW side of Hillside Cemetery, T2S R3W S3, small tree scattered through the orchard, alt. 490 m, 29 Dec 1984, *A. C. Sanders 5355* (MO, RSA, UCR). (5355 determined by W. G. D'Arcy).

*Previous knowledge.* Native to Argentina. Uncommonly cultivated as an ornamental in southern California. Widely naturalized in warm regions, including southern Asia, Australia, Hawaii, and Florida.

*Significance.* First records of spontaneous plants in California. This weak tree is occasionally naturalized in moist untended areas in the vicinity of Riverside and San Bernardino. It is particularly characteristic of neglected citrus orchards, but also appears in yards and hedges. It has been observed as an urban weed in Pasadena, Los Angeles Co. (O. F. Clarke personal communication). It should be watched for in riparian areas in southern California, where it might become established. Probably dispersed by fruit-eating birds.

*TRITELEIA HYACINTHINA* (Lindl.) E. Greene (Liliaceae).—San Bernardino Co., San Bernardino Mtns., Water Canyon off Wildwood Canyon, T2S R1W N  $\frac{1}{2}$  S9, alt. 1000

m, scarce at edge between oak woodland and annual grassland, 14 May 1993, A. C. Sanders & E. J. Lott 14036 (UCR).

*Previous knowledge.* Northern California, south in the coast ranges to about the San Luis Obispo/Monterey Co. line.

*Significance.* First record for San Bernardino Co. and a range extension of 400 km SE.

—ANDREW C. SANDERS, Herbarium, Dept. of Botany & Plant Sciences, University of California, Riverside, CA 92521.

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#### SINALOA

*MICROMERIA BROWNEI* (Sw.) Benth. (Lamiaceae).—Uncommon annual in mud in irrigation runoff, vic. Bacorehuis, 4.5 km (by air) SE of Agiabampo, 26°14'55"N, 109°06'25"W, 10 m, *Friedman 062-94* (17 March 94, ASU, det. B. L. Turner).

*Previous knowledge.* Widespread in tropical america in woods and along ditches in US from southern Texas to Florida, in Mexico from Nuevo Leon, Tamaulipas, south to Yucatan, Dominican Republic, West Indies.

*Significance.* First Sinaloan locality.

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#### SONORA

*BRICKELLIA BRANDEGEI* B. L. Rob. (Asteraceae).—Steep rocky slopes, Sierra Bojihua-came, SE of Obregón, 270–650 m, *H. S. Gentry 14508* (17–25 Oct 1954, ARIZ); N of Sierra de la Cebollita, 1.9 km NW of Nuri, *Sanders 2695* (8 Apr 1982, ARIZ, UC, UCR, UTEP, ann. from *B. Californica* by R. K. Van Devender); rock quarry, Cerro Bayajuri, ca. 18 km ESE of Villa Juarez, 27°04'40"N, 109°40'20"W, 100 m, *P. S. Martin s. n.* (28 Dec 1985, ARIZ, det. R. K. Van Devender); common on roadside cliffs, Cerro Onteme, 3.5 km S of Vicam, 27°36'20"N, 110°17'W, 100 m, *Sanders 8777* (13 Dec 1988, ARIZ, DAV, MO, RSA, SD, UCLA, UCR, TEX, ann. from *B. californica* (T. & G.) A. Gray by R. K. Van Devender); common on rocky roadcut, Cerro Prieto, ca. 14.5 km E Navojoa, in foothills thornscrub, 27°05'N, 109°17'05"W, 300 m, *Van Devender 92-725*, *Friedman* (4 Jul 1992, ARIZ, ASU, TEX, UCR); solitary shrub on rock face in tropical deciduous forest, Cerro Piedra Boluda, ca. 1 km NE of El Rincon Viejo, ca. 4.5 km N of Alamos, 27°04'10"N, 108°56'15"W, 720 m, *Van Devender, López E., Yetman* (13 Apr 1994, ARIZ, TEX, UCR, USON, det. B. L. Turner); In foothills thornscrub, Cerro La Antena, 1 km N of Microondas La Cabaña, 27°27'45"N, 109°46'20"W, 450 m, *Van Devender 94-612*, *Yetman* (19 Sept 1994, ARIZ, ASU); common 0.5 m tall subshrub on roadside cliffs in tropical deciduous forest, 4 km NW of Tepoca on Mex. 16, Mpio. de Yécora, *Van Devender 95-499*, *Reina G.* (7 May 1995, TEX, USON, det. B. L. Turner).

*Previous knowledge.* Baja California.

*Significance.* First Sonoran records.

*CORDIA GLOBOSA* (Jacq.) H. B. K. (Boraginaceae).—Solitary shrub in periodically flooded flats, Arroyo Jeberojacquia at Camahuiroa-Estero Bamocha road, 6.5 km S Camahuiroa, 26°29'20"N, 109°15'15"W, 5 m, *Friedman 245-94* (15 Aug 1994, ARIZ, ASU, BCMEX, UCR).

*Previous knowledge.* Sinaloa and Durango to Oaxaca, Veracruz and Yucatán, West Indies, Central and South America.

*Significance.* First Sonoran record.

*BROMELIA ALSODES* St. John (Bromeliaceae).—Colony in narrow canyon bottom,

hills W of Piedras Verdes, S of Presa Mocúzari (Adolpho Ruíz Cortínez), 27°08'06"N, 109°01'07"W, ca. 350 m, *Jenkins 89-124* (25 Dec 1989, ARIZ, MEXU); colony ca. 4 m across beneath *Celtis pallida* and *Ziziphus amole* in dense thornscrub on fine-textured soil, 22.3 km SE of Alamos on rd to El Zapote, 26°52'53.9"N, 108°50'48.7"W, 210 m, *Felger 94-140* (20 Mar 1994, ARIZ, MEXU).

*Previous knowledge.* Sinaloa, S Nayarit, Oaxaca, Veracruz, San Luis Potosí, Tamaulipas, Yucatán and Central America.

*Significance.* First Sonoran records.

*SELENICEREUS VAGANS* (K. Brandegee) Britt. & Rose (Cactaceae).—Dense epiphytic clumps 2–3 m above ground in *Havardia sonorae* and *Sideroxylon occidentale*, Huasaguarí, Arroyo Las Rastras between Masiaca and San Antonio de Las Ibarras, 26°50'55"N, 109°09'05"W, 140 m, *Van Devender 93-991*, *López E.*, *Yetman* (22 Sept 1993, ARIZ, ASU, TEX, UCR, USON, det. A. D. Zimmerman); a few in *Prosopis glandulosa*, 2.0 km S of Arroyo El Mentidero on San Vicente road, 13 km (by air) S of Alamos, 26°54'N, 108°55'25"W, 240 m, *Van Devender 94-823* (30 Oct 1994, ARIZ); El Paso on Río Cuchujaqui, 26°40'35"N, 108°49'30"W, 150 m, *Van Devender 95-104A*, *Reina G.*, *Yetman* (25 Feb 1995, USON); dense clump 4 m above ground in *Diospyros sonorae*, Arroyo Camahuiroa, 2.2 km (by air) NE Camahuiroa, 26°33'N, 109°15'30"W, 15 m, *Friedman 264-95* (7 Aug 1995, ASU, DES).

Common names are *sina volador* (Spanish) and *cuenoji* (Mayo).

*Previous knowledge.* W coast of México, type from Mazatlán, Sinaloa.

*Significance.* First Sonoran collections.

*CAPPARIS FLEXUOSA* (L.) L. (Capparidaceae).—Rare tall shrub on sandy yellow soil, Masiaca, Mpio. de Navojoa, 26°46'N, 109°13'W, 10 m, *P. Tenorio L. 13685* (28 May 1987, ARIZ, MEXU); uncommon shrub in coastal thornscrub, Arroyo Jeberojaquia, 6.8 km S of Camahuiroa, 26°29'20"N, 109°15'15"W, 5 m, *Friedman 162-94* (25 Jun 1994, ARIZ, ASU, BCMEX); common sprawling shrub in coastal thornscrub, Arroyo Camahuiroa, 2.2 km (by air) NE of Camahuiroa, 26°33'N, 109°15'30"W, 15 m, *Friedman 170-94* (26 Jun 1994, ARIZ, ASU, BCMEX, USON).

Mayo common name is *tabareca*.

*Previous knowledge.* Widely distributed in tropical America, in México from Tamaulipas to Sinaloa, Colima, and Yucatán.

*Significance.* First Sonoran records.

*IPOMOEA IMPERATI* (Vahl.) Griseb. (Convolvulaceae).—Prostrate perennial vine common in beach sand, Camahuiroa, 26°31'N, 109°16'W, *Van Devender 92-1067* (8 Oct 1992, ARIZ, FAU, UCR, det D. F. Austin).

*Previous knowledge.* Pantropical distribution, along beaches.

*Significance.* First Sonoran record.

*OPERCULINA PENNATIFIDA* (H.B.K.) O'Don. (Convolvulaceae).—Uncommon perennial vine in *Erythrina flabelliformis* to 6 m, 6.8 km S Camahuiroa to jct. with Arroyo Jeberojaquia, 10 km W-SW Melchor Ocampo, 26°29'20"N 109°15'15"W, 10m, *Friedman 435-94* (20 Oct. 1994, ASU, FAU), Det. D. Austin.

*Previous knowledge.* Texas through eastern Mexico, south to Guatemala, and in Sinaloa, and Michoacan.

*Significance.* First Sonoran record.

*DOYEREA EMETOCATHARTICA* Gros. (Cucurbitaceae).—Rocky hillside, vic. Cerrillos,

26°29'N, 109°07.5'W, 40–70 m, *H. S. Gentry 14399* (3 Oct 1954, ARIZ); uncommon vine to 2 m, vic. Sirebampo, 9.5 km S on Mex 15 from Las Bocas Road turnoff, 3.5 km W on Sirebampo Road, 26°38'45"N, 109°15'15"W, 35 m, *Friedman 372-93* (26 Dec 1993, ASU); coastal flats 0.35 km S of road to Las Bocas at a point 8.6 km W of Hwy 15, 26°46'N, 109°17'W, 60 m, *Sanders 14476* (9 Apr 1994, UCR); rocky slope at base of Cerro Tasiroguojo in foothills thornscrub, 1 km W Francisco Sarabia, 26°30'40"N, 109°07'35"W, 80 m, *Friedman 157-94* (24 Jun 1994, ASU).

*Previous knowledge.* México (Oaxaca, Guerrero, Sinaloa, Veracruz), Guatemala, Columbia, Dominican Republic, West Indies, Nicauragua, Puerto Rico, Venezuela, Virgin Isles, St. Croix, Lesser Antilles, and Netherlands Antilles.

*Significance.* First records for Sonora.

*MOMORDICA CHARANTIA* L. (Cucurbitaceae).—Common herbaceous perennial vine with bright orange fruits, 2–3 m high in shrubs along Río Mayo, Chihuahita Park at Mex. 159, 3 km (by air) WNW of Navojoa, 27°06'15"N, 109°29'W, 40 m, *Friedman 463-94* (21 Oct 1994, ARIZ, ASU).

*Previous knowledge.* An Old World native widely introduced in the New World tropics.

*Significance.* First Sonoran record.

*BERGIA TEXANA* (Hook.) Seub. (Elatinaceae).—Dried pools 6 km SW of Hwy 15 on road to Camahuira, 8 km E of Camahuira, 26°33'N, 109°12.5'W, 30 m, *Sanders 13525* (21 Mar 1993, UCR).

*Previous knowledge.* Southern US from California to Texas, Baja California and Nuevo Leon in México.

*Significance.* First record for Sonora.

*CAESALPINIA SCLEROCARPA* Standl. (Fabaceae).—Occasional tree, Arroyo Camahuira, 2.2 km NE of Camahuira, 23°33'05"N, 109°15'10"W, 15 m, *Friedman 168-94* (26 Jun 1994, ARIZ, ASU, NY, det. R. C. Barneby) and *Friedman 337* (21 Sept 1994, ARIZ, ASU).

Common names are *éban*, *palo freno* (Spanish), and *tubchi* (Mayo).

*Previous knowledge.* Sinaloa to Oaxaca.

*Significance.* First Sonoran record.

*MIMOSA ASPERATA* L. (Fabaceae).—Common in moist ditch, W edge of Talamante, 2 mi E of Bacobampo, 30 m, *Sanders 8957* (17 Dec 1988, RSA, UCR); rare 3 m tall shrub along coastal canal, 3.2 km N of Jecopaco on Calle 24, 13.5 km NE of Villa Juarez, 27°13'35"N, 109°46'30"W, *Friedman 005-94* (13 March 94, ARIZ, ASU, BCMEX); common in remnant marsh, NE side of Cerro Bayajuri, 27°05'N, 109°39'W, 30 m, *Sanders 14412* (6 Apr 1994, UCR); 3 m shrub in dense thickets on banks of Río Mayo, Chihuahita Park at Mex 159, 3 km (by air) WNW of Navojoa, 27°06'15"N, 109°29'W, 40 m, *Friedman 415-94* (21 Oct 94, ASU); 1.8 mi S Huatabampo on road to Etchoropa, 0.6 mi S of jct Hwy 178, 26°47.5'N, 109°39'W, 5 m *M. Fishbein 1973* (26 Dec 94, ARIZ); edge of Río Mayo, Etchojoa, 26°54'55"N, 109°39'30"W, ca. 10 m, *Van Devender 95-282*, *Reina G.*, *Yetman* (14 Apr 1995, ARIZ, ASU, NY, UCR, USON), dets. P. D. Jenkins & R. C. Barneby.

Spanish common names are *rama dormilera*, or *rama dormilona*.

*Previous knowledge.* Atlantic coast from Texas to Nicaragua, Sinaloa, Nayarit, Michoacán, Guatemala, and Cuba. Collections from México have generally been called *M. pigra* L.

*Significance.* First Sonoran records.

*PHOLISMA CULIACANUM* (Dressler & Kuijt) Yatskievych (Lennoaceae).—Tropical deciduous forest, La Higuera, N of Alamos, 27°6.7'N, 108°57.5'W, 300 m, *Meyer s. n.* (6 Jul 1990, ARIZ); mixed oak-tropical deciduous forest, Ranchito, Arroyo Santa Barbara, 27°07'N, 108°43.2'W, 1000 m, *Jenkins 90-162* (6 Oct 1990, ARIZ); scattered on volcanic slope, in foothills thornscrub, Cerro Terucuchi, ca. 3 km N of Teachive de Masiaca, Mpio. de Navojoa, 26°48'50"N, 109°12'55"W, 120 m, *Van Devender 93-894*, *López E.*, *Yetman* (21 Sept 1993, ARIZ, ASU, MO, UCR, USON); rare in tropical deciduous forest, El Rincón Viejo, ca. 3.4 km N of Alamos, 27°03'55"N, 109°56'W, 480–520 m, *Van Devender 93-1074*, *López E.*, *Yetman* (23 Sept 1993, ARIZ, ASU); in sandy-clay soil under *Prosopis* along Arroyo Masiaca, Teachive, Mpio. de Navojoa, 26°47'10"N, 109°14'W, 75 m, *Van Devender 94-677*, *Yetman* (21 Sept 1994, ARIZ, CAS, TEX); rare in coastal thornscrub, 1.0 km S of Sirebampo, 23°37'30"N, 109°15'30"W, 40 m, *Van Devender 95-1071*, *Reina G.* (26 Sept 1995, ARIZ, RSA); in sandy flat, possibly on *Ambrosia* roots on sandy flat in *Prosopis-Sabal* community, Mpio. Ures, Rancho La Noria Aguilareña, ca. 20 km N of Ures, 29°35'N, 110°23'W, 530 m, *E. Joyal 2577* (20 Oct 1995, ASU).

Called *hongo* and *lilita* (Spanish). Mayo Indians do not eat this species unlike the O'odham (Papago) of northwestern Sonora who formerly ate *P. sonorae*.

*Previous knowledge.* Endemic to the W slope of the Sierra Madre Occidental from 50–500 m, in Sinaloa and Sonora.

*Significance.* New records and elevational extension for a little-known holorrhizoparasitic species.

*NESAEA LONGIPES* A. Gray (Lythraceae).—Dried pools 6 km SW of Hwy 15 at Ejido Diez de Abril on road to Camahuiroa, 8 km E of Camahuiroa, 26°33'N, 109°12.5'W, 30 m, *Sanders 13530* (21 Mar 1993, UCR, det. S. Graham) and *Friedman 295-94* (19 Sep 1994, ARIZ, ASU, det. S. Graham); vic. Sirebampo, from a point 9.5 km S on Mex 15 from Las Bocas Road turnoff, 3.7 km SW of Mex 15, 26°38'N, 109°14.5'W, 30 m, *Friedman 079-95* (19 Jan 1995, ASU).

*Previous knowledge.* South central Texas, southeastern New Mexico, and Coahuila.

*Significance.* First records for Sonora.

*MALPIGHIA GLABRA* L. (Malpighiaceae).—Uncommon sprawling shrub, 2.5 mi W Mexico Hwy 15 on Hwy 176 in coastal thornscrub, 26°50'N, 109°24'W, 40 m, *Van Devender 92-1050*, *Sanders*, *Meyers* (7 Oct. 1992, ARIZ, CAS, TEX, UCR), dets. P. D. Jenkins and B. Anderson.

*Previous knowledge.* Known from Nuevo Leon and Tamaulipas to Tabasco and Yucatan. Southern Texas, Central America, West Indies, and northern South America.

*Significance.* New record for Sonora.

*BASTARDIA VISCOSA* (L.) H.B.K. (Malvaceae).—Locally common subshrub in sandy wash in coastal thornscrub, near Camahuiroa, 26°31'N, 109°16'W, 10 m, *Van Devender 93-276*, *Friedman* (15 Mar 1993, ARIZ, ASU, TEX, UCR, det. P. A. Fryxell).

*Previous knowledge.* From S Texas to the Gulf Coast in México, the West Indies and Perú.

*Significance.* First Sonoran records.

*OKENIA HYPOGEA* Schl. & Cham. (Nyctaginaceae).—Common perennial herb with subtarranean fruits, in beach sand at Camahuiroa, 26°31'N, 109°16'W, *Van Devender 92-1069*, *Friedman*, *Meyer* (8 Oct 1992, ARIZ, NMSU, UCR, det. R. Spellenberg); 11 km WNW of Melchor Ocampo, Mpio. de Huatabampo, 26°32'45"N, 109°17'25"W, *Friedman 344-93*, *Steinmann*, *Van Devender* (24 Nov 1993, ASU, BCMEX); and *Friedman 200-93* (20 Jul 1993, ASU, BCMEX).

*Previous knowledge.* In Florida, Sinaloa, Colima, Oaxaca, Veracruz, and Nicaragua.  
*Significance.* First Sonoran locality.

*OENOTHERA DRUMMONDII* Hook. var. *THALASSAPHILA* (Brandege) Munz (Onagraceae).—Fairly common perennial herb on sandy beach, Camahuiroa, 26°32';35"N, 109°17'31"W, *Van Devender 92-1069 Friedman, Meyer* (23 Jul 1992, ARIZ, ASU, CAS, MO, SD, TEX, UCR), and *Friedman 202b-93* (20 Jul 1993, ASU).

*Previous knowledge.* This species occurs along the coast of Gulf of México from Florida and Texas S to Veracruz; widely introduced elsewhere. *O. drummondii* var. *thalassaphila* occurs only in S Baja California.

*Significance.* First Sonoran locality.

*OPHIOGLOSSUM NUDICAULE* L. f. (Ophioglossaceae).—Locally common in moist depression on steep volcanic ash slopes, Palm Canyon, 25 km SE of Magdalena on Cucurpe road, Cerro Cinta de Plata, 30°21'N, 111°48'W, ca. 1200 m, *Van Devender s. n.* (14 Aug 1983, ARIZ, det. W. H. Wagner, Jr.); locally common in 5 m<sup>2</sup> area in coastal thornscrub, 3.3 km SSE of Camahuiroa, Laguna Barochipa, 26°31'N, 109°16'20"W, near sea level, *Steinmann 93-372, Friedman, Meyer, Van Devender* (23 Nov 1993, ARIZ, MO, det. W. H. Wagner, Jr., & G. Yatskievych); locally common in 2 m<sup>2</sup> area on red clay soil in tropical deciduous forest along trail from Parque El Chalotón to La Huerta, N side of Sierra de Alamos, ca. 2–3 km SW of Alamos, 27°00'N, 108°57'30"W, ca. 700 m, *Steinmann 94-63* (20 Aug 1994, ARIZ, MEXU); uncommon in moist soil depression on open rocky slope in tropical deciduous forest, Las Piedras Canyon, NE corner of Sierra de Alamos, 3.2 km (by air) S of Alamos, 26°59'20"N, 108°56'45"W, 550 m, *Van Devender 95-1136, Reina G.* (3 Oct 1995, ARIZ).

*Previous knowledge.* Southeastern US south to Central and South America, West Indies, South Africa, Australia, and tropical Asia. Widespread in México as far north as Sinaloa and Durango.

*Significance.* First Sonoran localities.

*LUZIOLA GRACILLIMA* Prodoehl (Poaceae).—Locally common emergent from shallow water in scattered pools and in wet sand in broad boulder-filled wash, Arroyo El Tigre, 2.8 km SE of Rancho El Tigre, ca. 1.5 km E of México 15 at 11 km N of junction with road to Bahía San Carlos, 28°05'N, 110°56'30"W, ca. 35 m, *Felger 85-1486* (22 Nov 1985, ARIZ, MEXU); locally abundant perennial in muddy depression in coastal thornscrub, 2.5 km W of Tierra y Libertad, 26°30'N, 109°30'W, 15 m, *Friedman 292-94* (19 Sept 1994, ARIZ, ASU, BCMEX); dets. J. R. Reeder.

*Previous knowledge.* Wet places in Sonora and Jalisco.

*Significance.* Second and third Sonoran localities.

*PANICUM ANTIDOTALE* Retz. (Poaceae).—Perennial grass to 3 m tall, Arroyo Camahuiroa, 2.2 km NE of Camahuiroa, 26°33'05"N, 109°15'10"W, 15 m, *Friedman 036-95* (17 Jan 95, ASU, det. J. R. Reeder).

*Previous knowledge.* Cultivar widely escaped throughout México.

*Significance.* First Sonoran locality.

*TRIDENS ERAGROSTOIDES* (Vasey & Scribner) Nash (Poaceae).—Rare perennial in shade under shrub in coastal thornscrub near Las Bocas, ca. 60 km S of Navojoa, 26°35'30"N, 109°20'30"W, near sea level, *Van Devender 92-130, Friedman, Meyer* (1 Feb 1992, ARIZ); rare in coastal thornscrub in center of *Stenocereus alamosensis*,

Camahuiroa, 26°31'N, 109°16'W, near sea level, *Van Devender 93-302* (15 Mar 1992, ARIZ); dets. J. R. Reeder.

*Previous knowledge.* Florida to Texas, Arizona, also reported from N México and Cuba.

*Significance.* Three previous Sonoran localities are close to US border. These collections represent a southern range extension of 400 km.

*AMYRIS BALSAMIFERA* L. (Rutaceae).—Common 3 m tree, 0.8 km S of Camahuiroa, on road to Tierra y Libertad road, 26°32'15"N, 109°16'30"W, 5 m, *Friedman 043-94* (16 Mar 1994, ARIZ, ASU); common along arroyo in coastal thornscrub, Arroyo Camahuiroa, 1.5 km NE of Camahuiroa, 9.5 km WNW of Melchor Ocampo, 26°33'05"N, 109°16'15"W, 15 m, *Friedman 174-94* (26 Jun 1994, ARIZ, ASU); Cañon Las Barajitas, Sierra Aguaje, ca. 18 km NW San Carlos, 28°03'12"N, 111°10'57.7" W, 70 m, *Felger 95-191* (18 Feb 1995, ARIZ, CAS, MEXU, MO, NY, RSA, TEX, US).

*Previous knowledge.* Sinaloa to Guerrero, S Florida to the West Indies, and South America.

*Significance.* First Sonoran records and first record of this tropical genus in a mesic desert canyon habitat.

*CAPRARIA BIFLORA* L. (Scrophulariaceae).—Two 0.8 m tall subshrubs on river bank, El Paso on the Río Cuchujaqui, 26°40'35"N, 108°49'30"W, 150 m, *Van Devender 95-90*, *Reina G.*, *Yetman* (25 Feb 1995, ARIZ, UCR, det. P. D. Jenkins).

*Previous knowledge.* Florida, West Indies, Central and South America, México.

*Significance.* First Sonoran locality.

*SOLANUM AZUREUM* Fern. (Solanaceae).—Scattered in sparse coastal thornscrub, Camahuiroa, 26°31'N, 109°16'W, near sea level, *Van Devender 92-1078*, *Sanders* (8 Oct 1992, ARIZ, ASU, CAS, MO, UCR, USON, det M. Fishbein); *Van Devender 93-304*, *Meyer* (15 Mar 1993, ARIZ, MO), *Van Devender 93-1254*, *Friedman*, *Steinmann* (23 Nov 1993, ARIZ, ASU, MO, USON); uncommon, 2.3 km NW of Camahuiroa, 4.2 km SE of Las Bocas, 26°33'45"N, 109°17'45"W, 5 m, *Friedman 176-93* (18 July 1993, ASU); common on coastal flats, near Arroyo Muerto, 1.5 km NNW of Camahuiroa on road to Las Bocas, Mpio. de Huatabampo, 26°33'25"N, 109°17'25"W, 5 m, *Friedman 329-93*, *Steinmann*, *Van Devender* (23 Nov 1993, ASU); common in sparse thornscrub, vic. Bacorehuis, 4.5 km SE of Agiabampo, 26°14'55"N, 109°06'25"W, 15 m, *Friedman 050-94* (17 Mar 1994, ASU).

*Previous knowledge.* Known only from the type locality at Topolobampo, Sinaloa.

*Significance.* First Sonoran records for a species endemic to coastal thornscrub.

*CITHAREXYLUM SCABRUM* Sessé & Moc. (Verbenaceae).—Rare sprawling shrub at arroyo margin in coastal thornscrub, Arroyo Nescotahuca, 0.8 km (by air) SW Rancho Nescotahuca, 26°36'15"N, 109°16'15"W, 25 m, *Friedman 359-94* (22 Sep 1994, ASU); solitary 7 m tall tree, Arroyo Masiaca, W side of Masiaca; 26°45'55"N, 109°14'25"W, 65 m, *Van Devender 94-712*, *Yetman* (22 Sep 1994, ARIZ, ASU, TEX, UCR, USON, det. G. Nesom); common shrub at arroyo margin, Jopopaco vicinity, 26°44'20"N, 109°16'W, 55 m, *Friedman 371-94* (23 Sept 1994, ASU).

*Previous knowledge.* Sinaloa.

*Significance.* First Sonoran records.

*LIPPIA GRAVEOLENS* H.B.K. (Verbenaceae).—Locally common shrub along road in

tropical deciduous forest, Microondas La Luna, Cerro Las Tatemas, 13.8 km NW of Alamos, 27°07'N, 109°02'W, 720 m, *Sanders 9434* (6 Sept 1989, ARIZ, UCR), *Jenkins 90-270* (10 Oct 1990, ARIZ), and *Van Devender 93-342* (16 Mar 1993, ARIZ, ASU, CAS, det. G. Nesom); uncommon shrub, Naopatia, Estero Bamocha, Mpio. de Huatabampo, 26°45'N, 109°15'W, *Van Devender 93-1271*, *Friedman, Meyer, Steinmann* (23 Nov 1993, ARIZ, ASU, TEX, UCR, USON); common at Arroyo Las Rastras, SW edge of Sierra de Alamos, 26°56'30"N, 109°30"W, 380 m, *Van Devender 93-1480*, *López E., Yetman* (9 Dec 1993, ARIZ, ASU, TEX, UCR, USON); uncommon 1.5 m tall shrub in foothills thornscrub-tropical deciduous forest transition, Tres Marias limestone quarry, 28 km E of Navojoa, 27°06'46"N, 109°09'45"W, 220 m, *Van Devender 95-1108*, *Reina G., Yetman* (27 Sep 1995, ARIZ, USON).

Spanish common names are *burro mariola*, or *oregano del burro*.

*Previous knowledge.* Dry, rocky hills, arroyos, and valleys from central Texas and New Mexico south to Central America.

*Significance.* Previous Sonoran collections (*F. Shreve 6150 & 6173*), between Tesopaco and Cedros reported as *L. berlandieri* Schauer were not deposited into ARIZ with either the Gentry or Shreve collections, and could not be rechecked.

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